1. (Allowed) A method for identifying an agent that modulates NF-κB activity in transcription of a gene in a eukaryotic cell, the method comprising:

contacting a candidate agent in vitro with acetylated RelA, deacetylated RelA, or both acetylated and deacetylated RelA; and

detecting deacetylated RelA;

wherein detection of an increase of deacetylated RelA in the presence of the candidate agent compared to a level of deacetylated RelA in the absence of the candidate agent indicates that the agent inhibits activity of NF-κB in gene transcription.

2. (Allowed) The method of claim 1, wherein RelA is detectably labeled so that deacetylation results in release of the detectable label from RelA, and said detecting of deacetylated RelA is by detecting a decrease in detectably labeled RelA.

3. (Allowed) The method of claim 1, wherein RelA is detectably labeled so that deacetylation results in release of the detectable label from RelA, and said detecting of deacetylated RelA is by detecting released detectable label.

4. (Allowed) The method of claim 1, wherein said detecting of deacetylated RelA is compared to a level of deacetylated RelA in the presence of histone deacetylase 3 (HDAC3).

5. (Allowed) The method of claim 1, wherein RelA is within a eukaryotic cell and detecting of deacetylated RelA is by detection of export of RelA from the nucleus, wherein detection of RelA export indicates RelA is deacetylated.

6. (Allowed) The method of claim 1, wherein RelA is within a eukaryotic cell and detecting of deacetylated RelA is by detection of an increase in RelA binding to IκBα.

112 2nd
in Vitro

It could be
an inhibitor
of phosphorylation

7. **(Twice Amended)** A method for identifying a substance that inhibits NF-κB activity, comprising testing a substance for activity in deacetylation of RelA or inhibition of RelA acetylation, the method comprising the steps of:

B1 exposing a sample comprising RelA to a test substance;

comparing deacetylated RelA in the sample comprising the test substance to acetylation of RelA in a sample without the test substance; and

determining whether the test substance provides for a level of deacetylated RelA greater than a level of deacetylated RelA in the absence of the test substance;

wherein activity of the test substance in increasing deacetylated RelA indicates the test substance inhibits NF-κB activity.

8. The method according to claim 7, wherein the exposing step includes using an extract of cells, which were treated with an inducer for NF-κB activation, or a fraction of said extract.

9. The method according to claim 7, wherein a cell-free system is used for the exposing step.

10. The method according to claim 9, wherein RelA is bound to a support.

19. (Allowed) The method of claim 1, wherein said contacting is in the presence of a protein or protein complex that acetylates RelA.

20. (Allowed) The method of claim 19, wherein the protein that acetylates RelA is CBP or p300.

21. (Allowed) The method of claim 1, wherein RelA is within a eukaryotic cell, which cell contains CBP and p300.

22. **(Twice Amended)** The method of claim 1, wherein said contacting is in the presence of HDAC3 and wherein detection of an increase of deacetylated RelA in the presence of the

B2 candidate agent and HDAC2 is compared to a level of deacetylated RelA in the absence of the candidate agent and the presence of HDAC3.

[redacted]

23. The method of claim 8, wherein the extract comprises p300 and CBP.

24. The method of claim 23, wherein the extract comprises HDAC3.

[redacted]